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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/538,434

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Margaret M. Jahn

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EXAMINER

ZHENG, LI

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

11/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,434	Applicant(s) JAHN ET AL.	
	Examiner LI ZHENG	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-58 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-33, 35-41, and 44-49 drawn to a first method of imparting virus resistance to plants comprising silencing a gene encoding a translation initiation factor eIF4E in the plant; and a first product, a genetic construct comprising a nucleic acid molecule which silences a gene encoding a translation initiation factor eIF4E in a plant, an expression system, host cell, and plant containing said genetic construct.

Group II, claim(s) 34, drawn to a second product, an isolated mutant translation initiation factor eIF4E.

Group III, claim(s) 50-58, drawn to a second method, of imparting virus resistance to plants comprising providing a nucleic acid molecule encoding a heterologous translation initiation factor eIF4E comprising an amino acid sequence of SEQ ID NO: 4 and variants at least 95% similar to SEQ ID NO: 4, wherein the mutant eIF4E is overexpressed.

Group IV, claim(s) 50-58, drawn to a third method, of imparting virus resistance to plants comprising providing a nucleic acid molecule encoding a heterologous translation initiation factor eIF4E comprising an amino acid sequence of SEQ ID NO: 6 and variants at least 95% similar to SEQ ID NO: 4, wherein the mutant eIF4E is overexpressed.

Group V, claim(s) 50-58, drawn to a fourth method, of imparting virus resistance to plants comprising providing a nucleic acid molecule encoding a heterologous translation initiation factor eIF4E comprising an amino acid sequence of SEQ ID NO: 8 and variants at least 95% similar to SEQ ID NO: 8, wherein the mutant eIF4E is overexpressed.

Group VI, claim(s) 50-58, drawn to a fifth method, of imparting virus resistance to plants comprising providing a nucleic acid molecule encoding a heterologous translation initiation factor eIF4E comprising an amino acid sequence at least 85% similar to a non-mutant initiation factor of SEQ ID NO: 2 and contains at least one substitution of at least one amino acid residue of SEQ ID NO: 2 selected from T51A, P66T, V67E, K71R, L79R, G107P, and D109R, wherein the mutant eIF4E is overexpressed.

Group VII, claim(s) 42 and 43, drawn to a sixth method, of making a mutant translation initiation factor eIF4E.

The inventions listed as Groups I-VI do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The technical feature linking the inventions of Groups I-VII is inactivation of eIF4E genes. However, this method is anticipated by Duprat et al (2002 the Plant Journal 32:927-934). Duprat et al. teach that insertion mutant line of Arabidopsis EIF(iso)4E gene exhibit enhanced resistance to potyviruses (at least abstract). Therefore this technical feature does not constitute a special technical feature as defined by PCT Rule 13.2, because it does not define a contribution over the prior art.

Applicants are reminded that different nucleotide sequences and amino acid sequences are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute different inventive concepts.

Applicant is required to choose one sequence from the following group for searching with Group I: A) SEQ ID NO: 1; B) nucleotide sequences encoding SEQ ID NO: 4; C) nucleotide sequences encoding SEQ ID NO: 6; D) nucleotide sequences encoding SEQ ID NO: 8; E) nucleotide sequences encoding SEQ ID NO: 2 and containing at least one substitution of at least one amino acid residue of SEQ ID NO: 2 selected from the group consisting of T51A, P66T, V67E, K71R, L79R, G107P, and D109R.

Claims that do not read on the elected nucleotide sequence or polypeptide sequence will be considered withdrawn. Applicant is advised that a reply to this requirement must include an identification of the nucleotide sequence or polypeptide

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sequence that is selected. An election that does not identify the nucleotide sequence or polypeptide sequence will be considered nonresponsive. This requirement is not to be construed as a requirement for an election of species, since each nucleotide and amino acid sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li Zheng whose telephone number is 571-272-8031. The examiner can normally be reached on Monday through Friday 9:00 AM - 5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Li Zheng/

Examiner, Art Unit 1638